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| 10/779,373  | 02/17/2004  | Marc Schaepekens     | 133348-1            | 7897             |
| 39290 7590 04/20/2011<br>DUANE MORRIS LLP - DC<br>505 9th Street<br>Suite 1000<br>WASHINGTON, DC 20004-2166 |             |                      |                     |                  |
| EXAMINER  |             |                      |                     |                  |
| KRUEER, KEVIN R   |             |                      |                     |                  |
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The time period for reply, if any, is set in the attached communication.

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* MARC SCHAEPKENS, HUA WANG,  
CHRISTIAN MARIA ANTON HELLER,  
KEVIN WARNER FLANAGAN, and  
PAUL ALAN MCCONNELEE

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Appeal 2010-003335  
Application 10/779,373  
Technology Center 1700

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Before ADRIENE LEPIANE HANLON, TERRY J. OWENS, and  
BEVERLY A. FRANKLIN, *Administrative Patent Judges*.

OWENS, *Administrative Patent Judge*.

DECISION ON APPEAL  
STATEMENT OF THE CASE

The Appellants appeal under 35 U.S.C. § 134(a) from the Examiner's rejection of claims 1, 4-8, and 11-15. Claims 16-26, which are all of the other pending claims, stand withdrawn from consideration by the Examiner. We have jurisdiction under 35 U.S.C. § 6(b).

### *The Invention*

The Appellants claim a composite article and an apparatus comprising the composite article. Claim 1 is illustrative:

1. A composite article comprising a first polymeric substrate layer and a second polymeric substrate layer, each of said polymeric substrate layers having at least a diffusion-inhibiting barrier disposed on a surface thereof, wherein the diffusion-inhibiting barriers on said substrate layers face each other within said composite article and at least one of said diffusion-inhibiting barriers comprises a material, the composition of which varies substantially continuously across a thickness thereof, and wherein compositions of regions across a thickness of said at least one diffusion-inhibiting barrier are selected from the group consisting of organic materials and inorganic materials.

### *The References*

|            |              |               |
|------------|--------------|---------------|
| Otto       | 5,643,638    | Jul. 1, 1997  |
| Graff      | 6,492,026 B1 | Dec. 10, 2002 |
| Silvernail | 6,576,351 B2 | Jun. 10, 2003 |
| Chung      | 6,836,070 B2 | Dec. 28, 2004 |

(filed Nov. 27, 2001)

### *The Rejections*

The claims stand rejected under 35 U.S.C. § 103 as follows: claims 1, 4, 6-8, 11, 13, and 14 over Chung in view of Otto, claims 1, 4-8, and 11-14 over Graff in view of Otto, and claims 1, 4, 5, 7, 8, and 11-15 over Silvernail in view of Otto.

### **OPINION**

We affirm the rejections.

#### *Issue*

Have the Appellants indicated reversible error in the Examiner's determination that Otto discloses a composition which varies substantially continuously across a thickness?

*Findings of Fact*

Otto discloses that it was known in the art to vary a composition continuously over a thickness by continuously changing the component mass flows or the process power level (col. 1, ll. 15-30; col. 2, ll. 1-5). Otto excites a plasma in a pulsed manner such that with each pulse a thin layer, typically 1 nm, is deposited on the substrate (col. 2, ll. 49-53). “[T]he amplitude and duration of the power pulse as well as the duration of the pulse interval are decisive for the production of a gradient layer” (col. 2, ll. 63-67). “[L]ayers having a composition gradient and/or structural gradient can be produced” (col. 4, ll. 1-3). The “gradient layer is, for example, completely organic on the substrate side or is organic to a large amount and the composition of the layer changes continuously so that it is completely or to a large extent inorganic on the function layer side” (col. 5, ll. 13-17).

*Analysis*

The Appellants argue that “[t]he term ‘continuously’ in the ‘varies...continuously’ feature is dispositive in this case” (Br. 4).

What is omitted by the “...” in that argument is “substantially”. Thus, the dispositive issue, according to the Appellants, is whether Otto’s composition “varies substantially continuously”.

The Appellants argue that Otto’s method forms multiple individual layers and, therefore, does not provide a concentration gradient which varies continuously (Br. 4-8; Reply Br. 2).

The Appellants provide no evidence, or even argument, that one of ordinary skill in the art would not have considered the composition gradient across Otto’s gradient layer comprised of thin, typically 1 nm layers, each

formed by one pulse, to vary substantially continuously. Otto's disclosure that "the composition of the layer changes continuously" (col. 5, ll. 15-16) appears to indicate that one of ordinary skill in the art not only would have considered Otto's concentration gradient to vary substantially continuously, but would have considered it to vary continuously.

Moreover, Otto discloses that it was known in the art to vary a composition continuously by continuously changing the component gas flow rates (col. 1, ll. 20-26). That is the same method the Appellants use to vary their composition continuously.<sup>1</sup> Thus, even if the Appellants' "varies substantially continuously" limitation distinguished the claimed article over that produced by the primary references as modified by Otto's pulse method, it does not appear that the limitation would distinguish the claimed article over the article produced by the primary references as modified by the prior art method disclosed by Otto.

#### *Conclusion of Law*

The Appellants have not indicated reversible error in the Examiner's determination that Otto discloses a composition which varies substantially continuously across a thickness.

#### DECISION/ORDER

The rejections under 35 U.S.C. § 103 of claims 1, 4, 6-8, 11, 13, and 14 over Chung in view of Otto, claims 1, 4-8, and 11-14 over Graff in view

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<sup>1</sup> US 7,015,640 (application no. 10/065,018), col. 6, ll. 54-57, incorporated by reference into the Appellants' Specification (¶ 0029) and relied upon for written descriptive support for the "varies substantially continuously" claim limitation (Br. 2).

of Otto, and claims 1, 4, 5, 7, 8, and 11-15 over Silvermail in view of Otto are affirmed.

It is ordered that the Examiner's decision is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a).

AFFIRMED

sld